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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,098	04/01/2005	Patrice Bujard	SE/2-22761/PCT	2966

324 7590 11/29/2007
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PATENT DEPARTMENT
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EXAMINER

BARHAM, BETHANY P

ART UNIT	PAPER NUMBER
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1615

MAIL DATE	DELIVERY MODE
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11/29/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/530,098	Applicant(s) BUJARD, PATRICE	
	Examiner Bethany P. Barham	Art Unit 1615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-21 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>07/05/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Summary

Receipt of IDS filed on 07/05/05 is acknowledged. Claims 1-9 and 11-21 are pending. Claims 1-9 and 11-21 are rejected.

DOUBLE PATENTING

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 1-9 and 11-21 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 7,291,216 B1. Although the conflicting claims are not identical, they are not patentably

distinct from each other because both claim platelet shaped pigment particles of a similar thickness with an SiO₂ layer ($0.03 \leq z \leq 2.0$) and a metal obtained by calcining at a temperature greater than 600° in a non-oxidizing atmosphere for use in paint, textiles, security printing, etc.

Claims 1-9 and 11-21 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims of copending Application No. 10/531,483. Although the conflicting claims are not identical, they are not patentably distinct from each other because platelet shaped pigment particles of a similar thickness with an SiO₂ layer ($0.7 \leq z \leq 2.0$) and a metal obtained by calcining at a temperature greater than 600° in a non-oxidizing atmosphere for use in paint, textiles, security printing, etc.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 4 recites numerous options for 'multi-layered platelet shaped substrate layer' in (a) but it is not clear whether each and every pigment has all

4 of the substrates listed in (a) or whether these are supposed to be taught in the alternative where each pigment has only one 'or' another 'multi-layered platelet shaped substrate layer'. The claim as written is vague and indefinite.

Claims 8-9 and 20-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Independent claim 8 recites a process step (b) wherein the platelets are 'optionally' treated with air or another oxygen-containing gas, it is unclear whether the platelets resulting from step (a) would be the same as those resulting from step (a) and (b) and further claim 20 teaches step (a) in combination with step (b).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-7 and 11-19 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,569,529 ('529).

The limitations of claims 1, and 11, are taught:

- '529 disclose that a pigment particle can have the structure as following.(Fig. 6):
Ti-based absorber--- Dielectric--- Ti-based absorber. '529 disclose that the Ti-based absorber can be titanium oxide and the thickness of it is in the range of 30- 300 Å (col. 9, lines 2-3). The dielectric core can be silicon substrate, which can be non-stoichiometric material. The ratio of silicon to oxygen can be varied in the range of from 1:1 to 1:2(col. 7, lines 59- 65). The dielectric core has two parallel faces (Fig. 6). The thickness of the dielectric core is in the range of 100- 800nm (col.7, lines 2-3). Thus the total thickness of the pigment particle of T-based absorber and dielectric core is in the rage of 106-860 nm.
- '529 disclose that the particle has a dimension in any surface in the range of 2- 200 microns (col. 9, lines 49-50). The aspect ratio is at least 2, preferably 5- 15(co1.16, lines 13-18).
- '529 teach pigment flakes can be interspersed into paints, inks, security documents, fabrics, cosmetics, toys, fashion apparel, etc (col. 17, lines, 18-30).

The limitations of claims 2-4, 5-7 and 12-15, are taught:

- '529 disclose a pigment particle having the following structure (Fig. 8): Dielectric-- -Reflector---Dielectric. '529 teaches a color shifting pigment flake with a reflector layer such as aluminum, a support sublayer is silicon oxide, a first dielectric layer over the top and a second dielectric layer over the bottom (which can be SiO_x where x=1-2 and/or TiO₂) and a titanium absorber layer over the dielectric layers in contact with at least one side (Claims 1-12).

- The reflector structure can be made of metallic material such as aluminum, nickel, gold, nickel and the like (claim 2, col. 6, lines 45-50) and that the substrate is 200-1000 Å (claim 3).

The limitations of claims 16-19, are taught:

- The thickness of the reflector structure is in the range of 200-1000 Å (col. 6, lines 50-52).
- '529 disclose that one of the dielectric structures can be silicon substrate, which can be non-stoichiometric material. The ratio of silicon to oxygen can be varied in the range of from 1:1 to 1:2(col. 7, lines 59-65). The dielectric structure has two parallel faces (Fig. 8). The thickness of the dielectric structure is in the range of 100-800 nm (col.7, lines 2-3). Thus total thickness of the particle with dielectric and reflector structure will be in the range of 220 nm- 1640 nm.
- '529 disclose that the particle has a dimension in any surface in the range of 2-200 microns (col. 9, lines 49-50). The aspect ratio is at least 2, preferably 5-15(col.16, lines 13-18).
- With regard to the calcining of the layer, the claims are product-by-process claims, thus the determination of patentability is based on the product itself. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was

made by a different process." In re Thorpe 777 F.2d 695,698,227 USPQ 964,966 (Fed Cir. 1985) and MPEP 2113.

Claims 1, 3, 8-9, 11-12 and 20-21 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,978,394 ('394).

The limitations of claims 1, 3, and 11-12, are taught:

- '394 teaches a metallically bright reflection pigment comprising a substrate of platelet like aluminum and coating of titanium oxides for use in coloring paints, inks, ceramics, glasses and cosmetics (abstract).
- '394 teaches a particle size of 10-120 microns (col. 2, lines 26-27), but that the color of the pigment depends on the layer thickness (col. 3, lines 16-21).

The limitations of claims 8-9 and 20-21, are taught:

- '394 teaches forming the coated pigments treatment with a reducing gas from 400-900°C and by heating them with an inert fluidizing gas from 100-400°C (claim 7, col. 2, lines 33-45 and col. 3, lines 22-50).
- '394 teaches additional coatings of metal oxide including SiO₂ (claim 4, and col. 3, line 63-col. 4, line 10).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 and 11-21 are rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 6,569,529 ('529) in view of 4,978,394 ('394).

- '529 is taught above. '529 teaches multi-layered platelet pigments with a reflector layer such as aluminum, a support sublayer is silicon oxide, a first dielectric layer over the top and a second dielectric layer over the bottom (which can be SiO_x where x=1-2 and/or TiO₂) and a titanium absorber layer over the dielectric layers in contact with at least one side (Claims 1-12).
- '529 does not teach the process of calcining.
- '394 teaches calcining with a gas at temperatures of 400-900 C and further an inert gas at 100-400 C in order to produce a bright reflection pigment comprising a substrate of platelet like aluminum and coating or titanium oxides for use in coloring paints, inks, ceramics, glasses and cosmetics (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the pigments of '529 in view of the process of '394. '529 teaches the claimed pigments are made via various methods known in the art such as PVD< CVD, PEVD, Sputtering and the like (col. 9, lines 10-20), while '394 teaches that calcining is a method that is known in the art and used to form metal, TiO₂ and SiO₂ platelet pigments. Both teach Al as an appropriate core metal and titanium oxide coatings including further silicon oxides. As such one of ordinary skill in the art would look to '394 for how to make a platelet pigment of '529 and '394 via the process of calcining.

CITED AS INTEREST

Coulter et al US 6,586,098 B1 is further cited as interest. Coulter et al a pigment comprising a central layer (i.e. layer B) located between a reflector layer (layer A) and a protective layer (layer C). See '098 Coulter, col. 6, lines 20-27 and 43-49. The central layer consists of silicon monoxide or silicon dioxide (col. 7, lines 29-32) and metal (col. 7, lines 44-54). Thus, the central layer comprises the same materials as the claimed layer (B); that is SiO_z and metal, when $z = 1$ (silicon monoxide) and $z = 2$ (silicon dioxide). Coulter further teaches an additional high refractive index (RI) layer on col. 12, lines 35-38 such as TiO_2 , carbon, and silicon carbide as suitable materials for the high RI layer are taught on col. 12, lines 35-49.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bethany Barham whose telephone number is (571)-272-6175. The examiner can normally be reached on Monday to Friday; 8:30 a.m. to 5:00 p.m. EST.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward can be reached on (571) 272-8373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Art Unit 1615


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